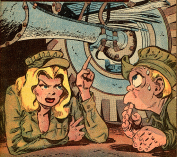


PS

THE
PREVENTIVE
MAINTENANCE
MONTHLY

NOVEMBER 1951 • • VOLUME 1 NUMBER 8



W. B. Ewing

THE ARMY WAY IS THE RIGHT WAY FOR THE ARMY!

There's an old saying in army circles that there are three ways of doing things—the right way—the wrong way—and the army way. Let's add to that: **The army way is the right way for the army.**

No doubt about it—the army way is different all right. Take F's uniforms, the uniforms. Field-garment jackets and blue serge suits are as American as baseball, but they don't fit into the army scheme of things. The field uniform does. It didn't just happen. There are years of planning and thought behind it, it's right for the army.

And that goes for your trucks and equipment as well. There are lots of little army ways of repairing and driving your truck that are different from the right way of doing it at home, but soon you learn that why and whereabouts they have their points.

Army selling deals may have around that carry it far from the main highway arteries, and in order to load drums, keels, sand drums, and make mud pits they have to be engineered just a little differently than the home-gut product, even though you see a familiar name on the tin that comes with it.

The old trucks at home didn't have to navigate streams with a high to a grade—sometimes—and their venting pipes and breathers could be placed so as to intake the steam without regard for water flying in its vicinity the old. Climbing the service of a quarter on an army vehicle is like tacking off by tree top—and you'll soon have chaps and coils way up to bark.

Yeah—the "army way" is different. Different clothes . . . different equipment . . . different experiences.

But somehow the pieces all fall in together like in a jigsaw puzzle.

The finished picture usually shows that the army way is the right way for the army.



How's it coming for

REAL PREVENTIVE MAINTENANCE

You'll want we would not have added to the article list of *Work*, *Concept*, *Shop* water-boring vehicles.

You can make 'em or break 'em in the first few minutes, the first few miles, or the first few months.

Many of the new tools and tests already in the field have been quickly picked up by the little cars or the much maligned *spare*.

It's up to you.

You can either learn about them and use them right, or you can go ahead and use them with a vengeance.

You can either double down at the full sign of trouble or you can double trouble by waiting for the side ones. Use as many modern new products, the insurance can be improved. Sure as you get those products of *PSA* Engineering—long will need improving. But if you expect them right away they can be repaired instead of reborn.

Customer is an expense in a bill on that. Spend it to the best effect. They'll get to a day at the first word of trouble. It costs more.

They're coming schools in volume of new vehicle delivery. They're got publications that tell about and how. They're got "public inspection" all over the place to tell up correct and not correct, and they're got telephone, what's even across your problems by telephone.

It's up to you.

It's day up on the ground. . . . We have the world's best equipment, *PSA* CAN DO IT.

***Reference: Long Technical**

NOVEMBER 1981

IN THIS ISSUE

ARTICLES

More Power To Your MCH	211
Reaction Timing	214
Temperature	247
Temperature	247
Top and Top (11/25)	221
MSR: Traps Lead	217
MSR: Center Point	241

REVIEWS

Real Preventive Maintenance	227
Quality Operation Service	224
San Diego Service	240
Remarkable Driving	20
What Happened To Shop?	40

DEPARTMENTS

Editorial	80
Customer Maintenance	81-82
Head Test Clinic	83
Carroll Road	120
Carroll Road's Bricks	121
Contributors	144
Top News-Item	148

PS MAGAZINE is published monthly in the interest of Preventive Maintenance for service-wide distribution to all our subscribers as part of the **PREVENTIVE MAINTENANCE PROGRAM**.

PS Magazine is glad to get your ideas, suggestions and illustrations, and is glad to return your questions. Just write to:
Editor, **PS Magazine**

Attention: Printing Division, Maryland

Subscription: Send for 12 issues for \$10.00 plus \$1.00 for the 13th issue. **PS Magazine** is published monthly by **PSA Engineering, Inc.**, 10000 1st St., Suite 200, San Diego, CA 92121. (619) 444-2000. **PS Magazine** is published by **PSA Engineering, Inc.**, 10000 1st St., Suite 200, San Diego, CA 92121. (619) 444-2000. **PS Magazine** is published by **PSA Engineering, Inc.**, 10000 1st St., Suite 200, San Diego, CA 92121. (619) 444-2000. **PS Magazine** is published by **PSA Engineering, Inc.**, 10000 1st St., Suite 200, San Diego, CA 92121. (619) 444-2000.

For information on publications through 1981 call 1-800-451-1000.

Combat Maintenance Stories

THIS IS THE STORY OF A PSEUDO COMBAT
..... AND A WIFE SORT

Editor, *PI Magazine*
Aberdeen Proving Ground, Md.
Dear Editor,

It wasn't so many years ago that I used to think I was a big shot. Nothing was too crazy for me. But now I think I was a damn fool, and I'll tell you why.

I was driving a tank at the time, and I was a lot of action, too. There wasn't nothing this boy couldn't take. Barbed wire, mudholes, or the roughest country the war could produce. I mean it was rough. Some of those steel holes could've swallowed me and the tank. Sometimes it did—but I was well ready for the new war.

Not my own. Besides, I had no head in the hospital before I went up to the front. Those tanks were built to do a job. I ran over a tangle of barbed-wire mine, and you know what happened. It got me around the sprocket and threw my track. That was it. We got out and ran for cover and boys, we were plenty scared. We remained in our for a good eight hours. Then we had to go back and break the track to get the barbed-wire off the sprocket. By the time we got the track back together, we got out of there soon too soon. As it



was, they picked dropped out of me for a week. And I was really
at that.

What I'm drivin' at is that if I hadn't been such a wise-guy we'd
have had all that same pain for generation, or maybe we could've
gotten out of there fast. You don't have to take my word for it, just
listen to an one of these geezers some of the old timbermen
have. They all learned their lesson the hard way. Jakes and cuss-
bets are lots, but they look better on horses, not in trails.

Edg. Bill Ross
Tacoma, Washington

THE TRAGEDY OF THE TLEAK

Editor, *PM Magazine*

Murderer Fearing God, MI

Dear Editor,

I don't know if this has anything to do with *timber* maintenance,
but I've seen drivers, truck drivers,
in some pretty rough spots in



times they didn't know how to drive. I was never against all the way from France to the Rhine during World War II and I was in a position to see most of the things that went on.

Some guys, when they'd come to a hill they'd go down it in what ever gear they were in. They wouldn't down shift coming off a level to go down a hill. Instead, they'd just hit the air brake. And what happens? They get about two-thirds the way down, no air. The driver's always hot but what can they do about it? And there wasn't always a clear road ahead of them.

And did you ever try to shift a vehicle whose engine was revved up higher than the transmission? They keep trying and trying and all the while the gears are chewing themselves to pieces. I don't have to tell you what the situation was on supplies. It was tough enough to keep the engine rolling with the vehicle loaded to its—and what with all the rocks I couldn't get new gear boxes for, it was a real tough situation.

What it all was could be called lack of driver training. I was a combat sergeant and you can quote me 75% of my drivers didn't know how to drive. The way they could find the handle up a truck would make your hair curl. And it will have no how some of these guys can get a GI license but just they can't drive.

Age: Young Overwood
From: Dix, New Jersey



MORE POWER TO THE M38



Just like a big muscled pro who can't pump, your motor can have what it takes yet not be able to deliver. And when your M38 gets in that condition it could be that a few easy adjustments can make it swing — swing — swing.

CALIFORNIA...DON'T FILL YOUR GAS TANK SO FULL

Do you find more gasoline in the air than you find in the tank, on your M38?

If you do, here's what to do about it:

1—Drain and clean the air filter and replace its oil to the marked level.

2—Change the engine oil—it's usually diluted by the gasoline from the air filter.

3—Take off the distributor cap and look inside for signs of oil and gasoline that get in through its vent pipe from the air filter.

4—DON'T FILL YOUR GAS TANK SO FULL. If you accidentally get it too full, drain it or drive it to lower the level. Trouble comes from putting a lot

of cold gasoline in the fuel tank, replacing the cap, and leaving the vehicle out in the sun. The gasoline expands as it warms up (and it can't escape because it's confined in the tank by a pressure valve set to 4 or 5 lbs. pressure). So it goes up the breather pipe and out the air filter, where in conjunction with the oil from above, it makes a highly explosive mix.

Just — DON'T FILL YOUR GAS TANK SO FULL.

MISS HOOD HOLES

One way for an engine to hold on to its fuel is to use a fuel tank vent pin when the head of the engine head-

inches back from the head-crank tubes. Use the pliers to place the sleeves that hold the crank handle onto the tubes.

HEEL-TOE HISS

Some just having trouble removing the belts from the rear-end shafts without bending the flange found it helpful to tap around the belt edges with a brass drift before using the puller. Should trouble still come your way, try this. Make a flat metal ring with two holes that match the shaft. Then remove the wheel nuts from the shaft, place the ring on the shaft and replace the nuts. Now, use the puller on the ring. When you put your muscle on the ring instead of the flange, you're headed right. Should you by chance find a nut, remember it's easier to replace a nut than a flange.

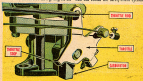
THROTTLE ADJUSTMENT

If the carburetor isn't giving us all

because the throttle valve (throttle valve) isn't open all the way. Spot that by watching the throttle lever on the carburetor as the accelerator is pushed toward the floor as far as it will go. If the full throttle stop of the lever doesn't top the carburetor, the engine is being told about it. This can be checked by decreasing the adjustable carburetor stop from the throttle cable gradually to the throttle stop. If the stop tops the carburetor when the adjustment is way down, the valve is wide open. This adjustment should be made while the motor's stopped or you'll find yourself fixing the engine unnecessarily.

SAFETY-CHAIN HOOKUP

Here's something Mr. Forest Ward GUY, Cincinnati, when trying to hook the M-100 trailer safety-chain to the M-36. He tried the idea of using the safety-chain eyebolts from the Ford GPU on Willys MB but found the safety-chain eyebolts



and on the old-time DCMW GME did a better job.

All he did was enlarge the two bottom pivot-holes from $1\frac{1}{2}$ " to $1\frac{3}{4}$ " to take the larger shaft. The wailer chain was long enough so that it still fit in contact with the chain crown. The GME sprocket is long enough to fit a nut and lock washer go-on all the way.

It's a good idea to wrap these weight plates in lubrication fittings like WD-40 for life. The angle fittings are under no get at after you install the sprockets.

IGNITION TIMING

Your M11 may be firing poorly because its ignition timing's been cracked after transportation when it should have been at 1° before. Look for the timing marks on the flywheel for top center and the 1° you want. The flywheel on the old jeep says 1004 at the 1° angle. Incidentally, it's common to read these marks from underneath the vehicle, and

when making your check, the engine should be at a slow idle (200-300 rpm). Later models of the M11 also have a hole drilled in the crank pulley which shows up sooner when lined up with a stamped rib on the timing gear cover. But the 1° isn't indicated, so if you want to get starting from this and you'll have to line the hole with a pointer over the beginning edge of the stamped rib.

IGNITION PLUG BREAKDOWN

Some theories are floating around on how water-proof spark plugs break down—probably because before we're through O-Ring. Some say they were killed by changing brands—but it isn't clear they're switching brands regardless of the repair man's original brand—which proves an new brand is as bad.

While some plugs have been found to show as much as 10,000 ohm resistance when maybe 1000 to 12,000 is considered normal, there seems to be very little correlation between spark plug resistance and cable failure. If a new cable doesn't solve the problem, use it—but check everything else first—maybe the cable has been cut—maybe it's been knicked or broken. Maybe the cable case has gotten kinked, and caused the final insulation breakdown.

While PJ is busy trying to get you the real story of what's happening, maybe you've got some ideas on the subject that would be useful to know about. If so, and even if you think your idea may not be sound, let's have it anyway, write direct to: Editor, PJ Magazine, Aberdeen Proving Ground, Md.



Hand-Tool CLINIC

PROPER
USE OF
PLIERS



When you
hammer



NEVER USE



TO DRIVE NAILS

USE



FOR THE
DRIVING
OF NAILS

NEVER USE Pliers



This is the
WRONG way

to cut wire when
BARBED



to make wire ends

Use SIDE-CUTTERS to break
or tighten nuts



NEVER Pliers



Can drive wire—PREVENTS BURN

When ANY OTHER Tool will do the job



This is the
WRONG way
to cut
wire

DIAGONALS ...
Cutting wire
at angle



To pull things like wires give
especially a controlled pull
To cut better wire to right
length and to spread ends

DIAGONALS ...
BARBED OR
BLACK IRON



For best to reach spots ...
and for easier handling of
things like insulating pipe

USE OTHER Pliers



Should be used on the
standard wire

Coucie Radd's

"SHORT 'M SWEET SIFT"



Double filter-cups

The situation on the brake-master-cup filter filter-cup (PS Magazine, September 1944) has changed a little. Master-cup filter-cup (PS Magazine, 1944) which had been a long time obsolete for the 27-year old, double-cup, was still used for the 14th year. Back on this cup has been found (PS Magazine, 1944) and then, after 44, your requisition should get you master-cup filter-cup (PS Magazine, 1944). But, such as the cup may still be used, and under this number you might get a single-bottle cup cup or the double-bottle cup. It is the single-bottle cup that usually fits into the brake fluid get up and through the valve into the air chamber... which means, hold, substitute or don't use it. Take only the double-bottle cup for brake-master-cup filter-cup (PS Magazine, 1944).

Warning for the 1944-1945, 1946 and the 1947-1948.

Expensive steel plug covers

The mystery of the steel plug cover reported in PS as found in a 1944 (PS Magazine, 1944) was not a plug cover, but a cover from the master-cup cover on the cup is attached to the plug. Next time you see under the master-cup cover the cover with the steel plug into the plug cover. To get it you, filter on the plug cover.

Oil-filter bracket fix

Many folks, pushing around Chevrolet 1944 pickups, are complaining about their oil filter bracket breaking.

The oil filter is attached to the exhaust manifold by U-bolts, strips of metal in

vertical position, and brackets that fit around the fiber (Fig. 1). The brackets are held to the U-body that fits around the exhaust manifold. The vertical pieces of metal act as levers for the brackets when they are pulled tight on the U-bolts and against the exhaust manifold.

The U-bolt nuts are being pulled on tight and in turn are bending the vertical levers around the manifold. This, ladies, is what keeps the brackets—they vibrate themselves tight out of commission.

Tighten those U-bolts just enough to hold the fiber tight, then stop.

If you can't determine how tight is right, and those brackets continue to break, try this fix: Get yourself a couple exhaust pipe clamp sockets (Stock No. 6111-04-0074, CC No. 89470) (Fig. 2). When you pull the nuts tight with these sockets in place, you'll get under and over it. It's going to be far enough to hold the fiber tight, but not far enough to vibrate the brackets and cause them to break.

Dulver's Audacity

The business man learns that he got

if of his driven business without losing them a minute for schooling is now required. He's laid up in nursing care in the base hospital from a slight accident involving three of his jokers with himself as a passenger in one of the vehicles.

What's he got so worried about with all those nice pulleys and weights and slings and pillows you may ask.....?

Hey no and ask, you want to know up the story?



Thanks, Ma, he's not worried about his trucks, they can be fixed. And he's not worried about the drivers, not a scratch on any one of them.

What he's worried about hasn't a thing to do with Dulver or at. He's worrying about the Motor—



Fig. 1



FIG. 2. WOOD CHISEL FOR CLAMP

When the Master Brake's given. Brake specialists say better training than to give his drivers, he'd be in a bad fix lying there at their mercy, jibbing away with all those needles—and maybe not knowing what they're doing at all.

Correct brake-adjustment

Sometimes we think we're in the groove when actually we're only getting by a rat. Like setting brake shoes on World War II Dodge 3/4-ton and 1 1/2-ton trucks. The best and only way to set a shoe, some guys think, is to ride it around a bit, applying the brake every now and then to get it into place. But on these Dodge trucks, we've got another trick coming.

Now see, the brake-adjusting cam on these trucks is made with the coiled leaf-spring on the inside of the brake-support plate. With this type of layout, forcing the brake shoe against the cam may cause the whole cam assembly to tilt

down a little when the cam is turned for an adjustment. Then when the brakes are applied after an adjustment, the coil leaf-spring will tend to align the cam and the shoe. And that's generally to reduce the clearance between the brake lining and the drum, it isn't any good.

No, rather than use your foot, pick up a hammer and smash the outside end of the adjusting cam whenever the cam is turned in order to change the position of the brake shoe. This will help will cause the cam to move back into proper alignment.

All this doesn't go for the Dodge 1/2-ton M37 which has an improved brake-adjusting cam. On the M37 the adjusting cam is set flat against the brake-support plate and the coiled leaf-spring is on the outside of the plate. This set-up prevents any misalignment of the cam when it's turned to change the position of the brake shoe. That way you don't have to waste the adjusting cam to adjust the brake.



SWITCHING GAS-TANK CAPS

Ignorance is bliss, until it comes to switching gas-tank caps on the new water-fueling vehicles. Turns out the caps are all the same size, but a tight fit is not necessarily a good one.

On the 1/2-ton M1, 3/4-ton M108/109 Box and Stakebeds, and the 1-ton M1 and M11 International's, the gas-tank venting and pressure-relief valves are in the tank itself. The caps for these tanks are straight.

The 1/2-ton M1 Dodge's and the 1/2-ton M109 GMC's, have only an air-bleed valve in the tank itself. The pressure-relief valve is in the gas-tank cap.

So, although all of these caps are the same size, what happens if you put one of the air-tight caps on the Dodge or the GMC? Pressure gets built up without a relief valve to take care of it, and when the pressure finds another exit, you'll find gasoline dripping with the oil in your engine and making a nice cupcake mixture. Word: It's not a matter of caps being too loose than being just.

104 LIGHT-TANKS OVERHEATING

If you're having trouble with overheating on the M104 light tank—maybe it's happening because a pair of hydraulic transmissions are fighting each other in the over arrangement.

News came in last from a unit out, saying they got replacements with differ-

ent gear ratios from the existing transmissions. The replacements were issued under track No. G200-70-07-01 and stamped with the number 2MT on the casting. The transmissions they had in the tanks were stamped with number 1HT and were formerly issued under track No. G200-70-07-02.

What they did to avoid trouble in the future was to start replacing transmissions in pairs. Which makes good sense.

104 LIGHT-TANK GAS-TANK PROBLEMS

Have having a lot about the several in-drip-plug options of gas-tanks on the M104. Seems that when you try to attach such drip-plugs, the whole section can get twisted loose from its moorings. One might a storage plan option if put into these tanks, the trouble can be avoided by using two washers on the tank plugs—two on the plug and one on the box base—the you'd use without on a pipe and heading.

The other trouble is M-104-T1 The M104 gas-tank filter needs are running all over the place. This run can be stopped in its tracks by a rubber spray-compound called Buna-N—and this compound provides a give a run-preventing coating that'll last as long as the tank. All M104s in the field, and all new production will have their filter under sprayed with this bright yellow Buna-N. Watch for it.

JOE DOPE

HOW TO PERFORM A DURING-OPERATIONS SERVICE ON YOUR VEHICLE



FIRST OF ALL, YOU MUST CONSIDER
WHAT YOU WANT... A TEST OF YOUR
MOTOR'S PERFORMANCE.

WELL, YOU'VE GOT TO
CONSIDER THE
TEST.



YES, BUT WHO CARES
IF YOU CAN'T
DRIVE IT?

YOU HAVE TO BE ABLE TO
DRIVE IT FIRST!
IT'S SIMPLE.

NEXT AS YOU TAKE ON
YOU MUST TRAINING,
CONCENTRATE!

ARE YOU
TRAINING?

YUP, YUP.

OK, FINE.



THE ENGINE

FOR TESTING YOUR ENGINE DURING THE OPERATION

HEARS ALL YOU HOOD



THE DIALS

INSTRUMENTS HELP YOU KEEP YOUR EYE ON THE ENGINE

YOU CAN'T SEE THE ENGINE FROM THE DIALS

NO. 15



TEMPERATURE

IF IT'S TOO HOT DON'T PUT WATER ON IT IMMEDIATELY

OIL PRESSURE

IF IT'S NOT NORMAL... REPORT IT

TACHOMETER

KEEP YOUR EYE ON THE ENGINE'S RPM. ONE OR THE OIL FLOW RATE.

IF THE ENGINE AREA SHOULD NOT GO LOWER THAN THE CLASSICAL IN THE SYSTEM



**DOUBLE
STEEL
HELL**

**PERSEVERENT
BATTLE AND
SOURAKS CAN
TIP YOU OFF**

It's not
hard to
get
a
winner
in
a
game
of
many
turns!



**THE
MATHS
MAGIC** **PERSEVERENT
BATTLE
IS
SOURAKS**



**THE
MATHS
MAGIC**
**PERSEVERENT
BATTLE
IS
SOURAKS**



A **PERSEVERENT** man
has the **PERSEVERENT** job
of **PERSEVERENT**.



It's not
hard to
get
a
winner
in
a
game
of
many
turns!

AGE GUNS SCIENCE

DEPENDS UPON THE
TACTICAL
SITUATION

IT'S CRUCIAL TO KNOW THE
DIFFERENCE BETWEEN
THE "SAFE" LOCK
AND THE "LOOSE"
LOCK POSITION OF THE
GUN.



1. ENGINE

MANUAL AND HYDRAULIC FURST CONTROL, FLEETING AND
GUN-RETRACTING SYSTEMS, AIRWAYS AND CRIBBER-CONTROL
READY FOR USE.

2. AIR

AN AIRWAY OR OTHER POINT, LOCATED ... ON ...

AGE BRAKES SCIENCE

THERE'S THE HARD
WAY ... OR ...
YOU CAN LOOK
FOR DANGER SIGNS

DO NOT
OVERSTRESS
THE
BRAKES
ON
THE
ROAD

3. BRAKES

DRIVERS SHOULD KNOW

FURST-OUT BRAKES

ARE AN GREAT SIGN

LEADING THROUGH STREETS

ROAD SIGNS

DRIVERS SHOULD KNOW
WITH USE OF IT WILL IN
STREETS

THE CLUTCH

ASIDE FROM BURNING... WATCH FOR CHATTER AND SCREAM.

IF

THERE'S NOT ENOUGH
FIRE THERE,

MEANS THE CLUTCH
IS BURNING.

IF

THERE'S TOO MUCH
FIRE THERE,

MEANS THE GEARS
ARE CLASHING.

IF ALL THESE
SOUNDS ARE
TOO LOUD,
YOU MAY
WATCH FOR



THE GEARS

LISTEN FOR GRINDING OR RATTLE...OR STRIPPED TEETH.

IF THE
SOUND IS
TOO LOUD,
YOU MAY
WATCH FOR
A FIRE OUT



OR

IT MAY BE THE RESULT OF OVERLOAD OR HIGH WINDS.

**AT
HALT**

WHEW! YOUR CAR'S
STOPPED! YOU'VE GOT TO
REPAIR IT. YOU'VE GOT
TO GO TO THE
MECHANIC'S SHOP
FOR THE
REPAIRS.







Dope Sheet



The gas pump was
merrily clinking
The big tank was
thirstily drinking
The fumes rolled
down hill
And gave Joe a thrill
When he lit
his cigar
without thinking

WE HAVE THE WORLD'S BEST EQUIPMENT... *Take care of it*

IT'S LONGER THAN YOU THINK



Trouble with our drivers is they all have lightning reactions and superior reflexes. You will see it when just as long for their mind to digest the fact that the vehicle ahead of them is going to stop or has stopped and then another span of time for the message to race through their nerve conditions, and they say: "Oh, yeh, I know all about that—thats' **NORMAL REACTION**

TIME, but not I never realize that fast."

Actually, under many highway conditions even "twice that fast" isn't fast enough brain-and-leg-action to keep from nudging the vehicle ahead in normal emergency vehicle spacing. Both driver who fails along about using his common sense because of his high velocity reflexes may find himself occupying the same space at the same time as the gookman in the next vehicle. With the likelihood that the driver behind him will barrel his vehicle into the back of them.

Proper spacing of vehicles is a constant on the highway, when not under special

REACTION TIME
IS NORMAL

CARVE THIS IN MIND...



10
FEET
AHEAD
STOPPING
AT 10 MPH



20
FEET
AHEAD
STOPPING
AT 20 MPH



100
FEET
AHEAD
STOPPING
AT 100 MPH



added to the roadway by the various circumstances, to keep a distance in yards that is double the rate of speed you are traveling: i.e., 60 yards at 30 mph, 80 yards at 40 mph, etc. And don't forget to allow a foot in every one of those YARDS. (Better practice judging distances to be able to tell the variations.)

This spacing is adequate under most circumstances now, provided if the driver is slow and wary, cautious. Remember that you set-up this increasing space in a hurry if the truck ahead comes in a sudden stop for any reason.

They've been thinking on the line

measured for super-lanes to get their mind made up and their brakes applied and it runs about like this: You're slipping along at 40 with the clear beam of 200 yards telling you into deadly relaxation, when . . . Bang! the truck ahead of you stops dead—no hand signal, no nothing.

What'ds you do? You beam's your tire 11 trips 2 off the accelerator and on to the brake pedal as quickly you can. Hardly believe it. But do you know how far your truck traveled during that last-second-time that elapsed between the moment you stopped and replaced just 40 feet, less

IT TAKES TIME TO STOP



20
YDS
STOPPING
DISTANCE
AT 20 MPH



40
YDS
STOPPING
DISTANCE
AT 40 MPH



60
YDS
STOPPING
DISTANCE
AT 60 MPH

er, brother, just 44 inches back from that's all. But that's only part of the story. Your feet in on the pedal and your brake shoes are against the drums, but you're still rolling towards the truck ahead. And you'll keep rolling, for probably 100 feet if you have a good high-friction highway.

Add the 44 to the 100 and you get a total of 144 feet, and you wait only with

maybe a couple yards to spare. To spare that is, if your trained-eye estimated five-foot yards in judging your distance and didn't include the extra at 2 or maybe 1 foot to the yard.

Safe, but not popular. For if your cargo is a human variety they'll tell you a thing or two about accidents that they crowd you from among such others.

THINGS YOU NEVER KNEW...

PLATINUM-TIP PLUGS

The spark plugs in most of our trucks have platinum-tipped electrodes to give them long life. In when you replace them with new ones, turn in the old plugs for salvage. They're worth a hard dollar in trade, and platinum is a rare metal these days. It also makes sense when you change yours, not to fit all one of that three-pronged effect. To help you know what plugs to use, they'll be the type you get stamped with manufacturer's numbers: 17415, 861 881091-2, or 144-2. But here's an all in just to be sure.

CABLES & COMPRESSION ADJUSTMENT

Dear Editor,

I have the one four-cylinder Ford in my Service Maintenance Department which has a high compression engine. The book told that I run deep the compression, 1004 than 7.5 to 1, to 7.2 to 1 by installing a .002" steel shim between the head gaskets on each block and

that the Cadillac factory makes a shim for that purpose. Is this true?

Sgt. W. Francis

Old Man—Here it is, try it in!

24-VOLT TIRE EQUIPMENT

You will be happy to know that adapter kits are now available to test and adjust the electrical systems on your new 24-volt vehicles. These kits contain all the gauges and stuff you'll need to check so there's no more reason to be handling those sealed items with materials like old rusty nails and boiling wire. Furthermore, when you plug the adapter into the generator, all these instruments will be working at you when you get out there camp. The kit is available to supply Chevrolet under stock number 17-4-2128, and will work hand-in-glove with your old standard four-voltage-direct-reading battery. For more information, write to Chevrolet, Dept. 17-1-0078-08, which you no doubt have already around waiting. The whole handbook is contained in Chapter 1 to 1984-4-100, 47 Section 2, published in September 1983.

Souvenirs Are VALUABLE

Every so often you people who are operating vehicles in the forward areas will find all sorts of interesting enemy material left lying about—anything from individual weapons and equipment to large pieces of Ordnance.

This stuff is not only interesting to you, it is of vital interest to the Ordnance Corps. Now, officially, all captured or abandoned enemy equipment becomes United States property automatically, and there can be nothing about it.

However, he will go along with you

by retaining much of anything in the nature of individual weapons and/or equipment you run in, if you want it back for a souvenir. Things like rifles, pistols, helmets, canteens, bayonets, etc. Great weapons, mirrors, etc., are not. And grenades, rockets, and shells will be de-banded for you.

Asphers, don't try to take this stuff apart, or start vehicles or tanks, etc. Just leave it exactly where you find it, and tell the nearest Ordnance Intelligence or Explosives Ordnance Disposal Unit about it. Invaluable information can be obtained from enemy material, and the less damage and/or stripping it has suffered, the more valuable it is. Leave the small parts, sights, barrels, etc., alone—AND take it in promptly.

TEMPSEAL AND TERMINALS

As the result of testing of the Ordnance Manual, they've found it unnecessary to stop Tempseal on the terminals of your battery at any time. As you learned from the October issue, it was decided that this material was not to be used on these terminals except when feeding. So they figured on putting Tempseal in the feeding kit, to be used only when feeding.

The latest tests show that the heavily-lubed-cold batteries do not short out when operating under water. And it seems that Temp-

seal actually tends to corrode which forms on the terminals, and gradually, correct leads develop. One battery tested at Alton Base was found to have a low-volt leak on each side of the water separator—was at Camp McCoy showed an eight-amp-volt leak. Which, of course, caused more fire charge and shorts on the battery. So now, you don't feed with Tempseal. Just grease your terminals lightly, some or steel. And after feeding, just flush off the salt water with fresh water,

All D commands were notified by TMX 223406 dated 15 Oct 1951.

CONTRIBUTIONS



HITED POINTS

Dear Editor,

When setting up radio noise suppression on the distributor of the GMC 350, you don't have to attach it to the rear post which has the long wire coming from the filter box on the fuel tank. Attaching it to the front post gives you more than your share of ignition-point pinging. Reason is, your distributor is connected to the front post and it already has a condenser in it. Parallel condensers give off the sum of their individual capacity—which is not much for the points.

Ho Edridge Foreman
[M] Aerial Cam [RUCOM]

SLAYING BRAKE-DRAGS

Dear Editor,

Here is one on the new Dodge M37 by over-truck brakes. After newly selected brake shoes are installed and initially adjusted, drive around the area and apply the brakes until they're well warmed up. Upon returning to the shop,

pop the truck and give it the brakes for about five minutes. This tends to set the springs well against the brake shoes, and then, after the final brake adjustment is made when the truck cool, will last much longer, giving a hard road pedal with plenty of reserve.

Cpl. Kenneth J. Brown
[M] Aerial Cam [RUCOM]

Foot Note—Applying the brakes a bit on an initial run will do a lot toward setting the springs the way you want them. And as usual, wait until after they're cool. (After cooling, though, it's a new story on setting the shoes by doubling the brake pedal on after the truck's been stopped.)

BADGATOR REPAIR

Dear Editor,

Here's from the first aid for collapsed radiators that have the mechanism on top-up with a spray bottle. If the agent that moves the water pump and the fan, this fan, emergency patch-job will keep

your lugs off the rubber evenly, lie— if they start overheating, but it'll hold water 'til you roll back to the shop for a new sealant.

You'll need two steady pieces of wood, or some sort of sawhorses. If your situation is real desperate, rip off the sides of your sheet for patches—they're guaranteed to be strong enough to overlap the hole's cut hole.

Drill a hole in the center of each patch, then pad them thick with heavy grease (Fig. 1); wrap, seal in any lugs are all, too. Place a patch on each side of the hole in the rubber rim and run the whole business through with a long bolt. The bolt has to be longer than the combined thickness of the patches and the rubber, of course. If one isn't handy, run a string, wire loop through the rubber rim to hold the patches in place. Now screw the double patch with a nut, and jay for a newly water-tight.

MC E. H. Austin

1021 75J Oak Road, Bell APO, Md.

[The Note—Should take good emergency remedy, then, but to save the patch doesn't get in the way of the fan blades — and if you are going on your patch, remember it won't hold up as long as other wrap patching, because new heat, they will melt it. But experience has proved wrap to be the best of the lot.]

SUBSTITUTE FOR JEEP BELT-CRANE PIN & BUSHING.

Frank Collins.

Bellevue, Idaho and bushings for our types hot jumps, as there are hard to get. After a searching search we found a few substitutes. I'd like to pass them along to other readers who make use of them.

If it's the belt-crank bushing (JMC 4700-004) that you can't get, try using a GMC die-cast bushing. (Construction on a GMC front-spring bushing (JMC 4700-004), they'll both fit. Can use 5/8" pieces from either bushing and give me 1/2" length on each side of the belt.



Figure 1

crank bolts. Leave a little space between them to act as a grease slot.

For the bellows seal (G266-1714) a GMC diesel belt (G266-21014) or a GMC diesel-tractor pin (G266-20001) can be substituted. You'll have to cut the belt's longitudinal end off, and fit in the belt notch.

Cpt R. T. Stephenson
2d Co, 1st Avn Co
Bn

[TJ Note—Crank shaft is a good field fix . . . but replace the rollers with the genuine parts as soon as you get them.]

M4, M41 WINDS

Dear Editor,

On our M4 and M41's the wind rollers supports have been breaking. They go pop when vacuum straps is applied in the roller when the wind is being operated the proper standard way (Fig. 2).

Seeing that these support-rollers are made of aluminum alloy and probably can't stand too great a strain, we worked out some ways to operate the wind that'll keep them from snapping.

Best method . . . reverse the cable so it will pay out from under the drum and

then, through the power take, reverse the drum rotation (Fig. 3).

Another remedy . . . remove the roller from bumper, install pin the roller on overway on the top side, then pay the cable out over top of the idler. It may be necessary to enlarge the bumper from belt drum cable clearance (Fig. 4).

F. L. Wood, OCT
Comp Artillery, Inf.

[TJ Note—Reversing the cable is a good temporary fix . . . there's something in the wind about the wind's abrupt change too hard! Until we're able to learn more about this, better keep a change up on your wind drum's capacity. It's not to do over 20,000 lbs.]

EXHAUST DIRECTOR

Dear Editor,

On the new jeep, the exhaust roller the bumper, deflates upward and the heat breaks the glass in the blizzard lamp and distorts the spare tire.

A simple fix has been worked out by Cpt Walter Hubbard at this Post.

Using scrap material, he fabricates a short exhaust pipe, which is just long enough to clear the exhaust drum and



on the right side. The fan in addition to protecting the lamp and also makes the exhaust much quieter.

H. E. Coop, OCF
Fort Leonard Wood, Mo.

[Ed Note—Coop's modification is on the OCF side of the fabrication by attaching to the landing extension when it comes along one will be easily made. However, the exhaust should direct under the bumperbar without any fan. Could it be that your exhaust system needs oil-jacking?]



SCREW-TYPE THRESHER

Dear Editor,

In removing the fuel pump from legs, I have found it wise to alter the heads of the two mounting bolts. By doing this and then using a nut-washer, the removal and installation of the fuel pump is a speedy operation.

Cpl. Dennis E. Nelson, Jr.
APO 5 4/6PM San Francisco, Calif.

[Ed Note—On the unmodified jeep—when Cpl. Nelson is using—this is not only wise, but absolutely necessary. Not

is thought, until the newer 200's or 201's—these have been modified so the fuel cannot cut beyond the fuel pump and you can use the 201's fuel and service with ease.]

BIGHT FRONT-SLAT, MIB

Dear Editor,

The front right seat on the MIB has been causing some trouble. We had a few cases where wheelchairs were broken when the man was pushed forward. An other times this seat was dropped on the compartment lids while they were open, bending them.

Why not use a folding leg under the right side of the seat frame which would limit the forward travel and prop up the seat while the fuel-compartment is open? Similar legs or brackets are used to support drop leaves on other tables.

M. E. Jennings, OCF
Fort Ewell, Va.

[Ed Note—Not a bad idea if it doesn't trip the guy getting into the back seat.]



Dear Zanka,

...the new **2.0L I-4 GMX M135**
and I promise to take mighty
good care of that **AUTOMATIC**
TRANSMISSION

You may think such care-direct care-is strictly for the birds and the bees, but even if you don't hang up your P-Flag, you still might get the water-feeding. Most GMX for Christmas. And this new System is just loaded with surprises—like the gearbox that not only holds the gear stay, but swings it out, and watches it slip so that rolling it away is a no-brain job.

Most important, though, this truck won't get no slacks. The automatic transmission is going to save you a lot of back-work and shiftings, which means, in short, that driving the M135 can be a real big pleasure.

This transmission automatically selects the forward gears that let the truck operate at its peak of efficiency . . . if the driver has first selected the proper range and lever position.

There are four automatic forward shifts and one reverse speed in both high and low range. For your forward shifts, you'll find two lever positions in each range, road and terrain conditions

will show you in where to move the lever. F-1 position is for level operation, F-2 is for those hills.

What you get in F-1 is automatic shifting that varies with the shift position and road speed. It is actually controlling action between throttle and road speed that controls the low-speed shifting.

So, for example, you're cruising along in fourth gear when you hit a slight incline. It's not really a hill, so you don't move the lever position. Your throttle position stays the same over the hump, but you lose road speed, so the transmission downshifts to the next lower gear. When you regain road speed, it'll up-shift back to the higher gear again—without any additional throttle.

You can also "force" a downshift for maximum acceleration and power (if you're traveling under 31 mph in high range) by completely depressing the accelerator. The upshift action will happen when you ease up on acceleration, or automatically when your road-speed climbs to about 36 mph.

F-2 position is the one to use in the hill country, when it's a long time between level stretches of road. This position gets you the two best gears, and they're automatically selected by road speed. This means that the gears won't be shifting around when you don't want them to—by varying clutch position, you can maintain the best gear for climbs and also get braking help from the engine on downgrades.

You can also maintain third gear in F-1 by reaching that gear in F-1, and then remaining in F-1. This practice is particu-

larly handy for working down your hilly grades. Throttle action isn't going to cause upshifts and downshifts in F-2 position until it does affect road speed.

Another thing it's good to know about —if you're in 4th speed F-1 (or 3rd, or 2nd) and you figure on needing F-2 for hilly country, or do some climbing, remember that the move to F-2 will immediately get you a downshift into 2nd speed. So it's not smart to make the move just because you've spotted a hill in the distance. Wait until you really need it—when the main climbing up on the climb is close enough.

CAUTION DO NOT CHANGE ENGINE GOVERNOR SETTINGS, AS IT MAY AFFECT AIRBRAKE OPERATION.



MAX. PERMISSIBLE ROAD SPEED

Transmission	High Range	Low Range
F-1	15	10
F-2	10	5

BASED ON DATA FROM ENGINE AND GEAR SIZES AND RATED HORSEPOWER.

F-1 FORWARD RANGE, USEFUL UP AND DOWN TRANSDUCTION FOR LEVEL ROAD OPERATION.

F-2 REVERSE RANGE, USED AT MAX. ENGINE SPEEDS, FROM 1000 TO 1500 RPM, TO CLIMB AND DOWN HILLS, GRADE BRIMMS AND OVER CROSS COUNTRY TERRAIN.

HIGH RANGE—FOR CLIMBS, GRADES AND HILLS.

LOW RANGE—FOR STEEP GRADES AND GRADES UP ROAD OPERATIONS.

BEFORE **EMERGENCY DECELERATION** SHOULD BECOME NEAR TO A FULL STOP, USE **DRIVING DOWN HILL** RANGE, YOUR LEVER **MUST** BE IN **F-1** POSITION.

SHIFTER LEVER

UP
CLIMB

DOWN
HILLS

WARNING LEVER MUST BE IN **NEUTRAL POSITION** FOR ROAD OPERATION.

WHEN **LEAVING HILLS** OR **CLIMB** OR **GRADING** SHOULD PUT TRANSDUCTION CONTROL IN **NEUTRAL** **HIGH RANGE** WITH NO FUEL OR FUELING, **THROTTLE TRANSDUCTION CONTROL** IN **CLIMB RANGE**.

WHEN **DRIVING DOWN HILL** OR **TRAVELING DOWN HILL** IN **NEUTRAL POSITION**.

The action you get from low-range position is essentially the same as you've been getting in high range, with the big exception of multi-speed influence. In low range, normally shifting occurs at approximately 1/2 the road speed of equivalent shifting in high range — and, of course, pulling ability is increased accordingly.

Maximum speed in low range is 11

mph if you can travel faster than that going cross-country (maybe you're on a nice, hard, dry road — but you've got no business being in low range). And, if follows, you've got no business moving into low range in the beginning of your road speed's over 15 mph — unless you want to start off a piece of two-foot transmission, track, MTR. The choice of when to move in and out of low range is mine-



This driver's in F-1 high-range, and as long as the road stays as good, he'll let the transmission do its own work on stops and starts and slow-downs. He'll touch only a finger and in the gear lever.



Our driver here is still in high range, but he's shifted to F-2 — he's smart. He knows he can use the accelerator action to help him maintain the gears needed for climbing, and get backing help from the engine.

thing you've collected with manual shifts, anyway—it's just more important now to let the automatic shifting make you lay in judgment.

How about reverse gear, now? It's pretty much the same as before: this new-fangled transmission came into the picture. Naturally, you're not going on by traveling or rolling backward unless your brain is screaming at you, going

so slow the thing is reverse while you're in a forward motion.... which would be bad for this baby. Remember, you're not shifting, and you'll get no warning clack of gears so make you wait for a complete stop before engaging reverse. What you'll get is a come-up transmission. The clutch holds true when you're moving from reverse in any other position. You've gotta be stopped—don't rush it.



This driver would be in low range whether or not he's got an automatic transmission. But, as yet, he's still in F-1 low-range—and he'll stay in F-1 as long as the truck holds its gears and speed.



The truck'll know what lower position it needs. If it can't hold its own — keeps automatically down-shifting — the smart driver puts her in F-2 low-range, which makes it easier for both of them.

In a nutshell, you'll find the important do-and-don't's on the vehicle control plan. The points will tell you in detail about the care and handling of the transmission during operation, towing, which

fig. etc. If you'll drive by the rest of your points, and use the lever positions to give the truck help when she needs it, you'll fall in line with this city-on GMC.

BEFORE YOU DRIVE YOUR TRUCK . . .

Do these three things:

1. Get an hour of driving instruction.
2. Get another hour of driving instruction.
3. Get a third hour of driving instruction.

Sound silly? Not at all. You'll either be glad you did or you'll wish you had. Spend the first hour on pre-driving instruction on the application of theory. Spend the second hour driving the truck in all your combinations, at all speeds, and under all possible terrain conditions. Then go back and talk to another hour about what you did, how and why you did it, and what you'll do in the future.



Breaks, gears, and releases of acceleration will give you constant shifting reward. A big fat handshake is coming. But in F-3, even if it goes over the road speeds low to 11 mph by gradually raising circumstances.



Roll over up a road that isn't the time to look for gear by releasing the accelerator. F-3 gives you control of when she'll shift — with the accelerator on the clutch's get up enough speed to shift into that gear.



When you're done in a shift in a release time to decide you should be in low range. As you're holding the lever up, over, and down, you're also started to roll back — And where are you going to be in a moment?

How To Avoid What You've Been Calling

Dear Editor,

I've had trouble on the M38 with the gas vaporizing in the gas line after a long trip, leaving us with a vehicle that won't start. This is caused by the gas line being too close to the manifold, and the heat building up under the hood causes the gasoline to boil in the line. But I found a quick way—way to correct this trouble. Just take the line off and turn it around. This gives you an entirely different course which takes it far away from the manifold.

Carl Howard & Blount

[Ed Note—Half that took a course along when he tested your fix and came up with three other ideas of the gas line

VAPOR LOCK ON THE M38

Higher fuel in the fuel line isn't too likely in the M38 unless you're in some hot country, it says here. The problem isn't in the gas tank it supposed to keep you going. In direct cross pumps are well-arranged in the tanks. Could it be that some air seeped through a loose packing and air just pulled pump? Or, the some leak around the fuel line filter and fuel line restricted just gas flow? Maybe the fuel in your gas tank is slugged?

No Manufactured
Gas Line from Inlet

Turned Around
Black Spring Valve

Turned Around and
Bent (Good Deal)



SGT. HALF-MAST MECHANICK'S

ANSWER

SIGT.



WIND-UPPER LEVER

Dear Half-Mast,

We are having trouble with the wind-up lever breaking on the 1-ton M-1 tractor. The lever drops on the front gear bracket. It is made of a very poor grade of aluminum. What to do?

Sgt. W. L. E.

Dear Sgt. W. L. E.,

Ground the lever would be made of poor grade aluminum—there's a trick in operating the clutch to prevent the lever from breaking. Could be that in some cases the operator's been trying to engage the wind-up drum clutch with the jaws not in the proper relative position. Crutch-crutch!

Now that, if operating alone, raise the wind-down by hand, with reasonable pressure on the wind-clutch operating lever. Apply pressure by hand instead of feet, however, on 10-foot length of pipe. If you have an auxiliary drive, while the operator pressure on the wind-down op-

erating-lever, you can engage the wind-drive in reverse position, rotating the wind-rop continuously. When the two clutch members are properly matched, they will become engaged—and that there's no room for leverage.

Half-Mast

RAMF SYMBOLS

Dear Half-Mast,

On a GMC D-1200, what would you find the symbols CCKW, D-1200, I-1200, H-1200, L-1200, but can you tell me what CCKW means? For checked completion.

Sgt. K. L. H.

Answer

Dear Sgt. K. L. H.,

Don't worry about that CCKW. The only guy that gets anything out of it is the manufacturer. He uses it as a model designation. For you, it's the the farmer who saw his first girl—*is just didn't exist.*

Half-Mast

OLD BRAKES ON 2-1/2-TON'S

Dear Flathead:

One hint in *Flathead's* dealing trouble getting parts for the four-cylinder master cylinder brake booster valve and the master valve booster on our old Chevrolet 1/2-ton vehicles. I'd like to know where I could get the parts or used or if it's possible to convert the braking system on the later hydraulic type used on the GM's. Sg R.T.S.

Dear Sg R.T.S.:

First about remodeling the old brakes on your old Chevy truck: that's a tough one, but it can be done. You'd have to take out the old system completely and install a new one using the hydraulic

one system. As I said, it's a tough job because all the hydraulic parts may not be available to you. If you can get a second truck with a hydraulic, and if you can get the old man's permission to dismantle his braking rig, that would be your best bet. With the aid of T.M.P.-man, T.M.P.-man and T.M.P.-man, a good mechanic, and a fair share of ingenuity, it wouldn't be too tough to put the remodeled parts in your truck.

Now the parts for your old braking system, I agree with you. They're definitely hard to get because that type has gone obsolete about ten years ago. The easiest way out would be to save the truck in for a later model you could get parts

P.S.T.O. Ask P.

In the July issue, we got talking about adjusting the belts on the M11 Clinton disk International Diesel. These belts are made of a material, but specifications which won't stretch, crack, or pop in low temperatures the way standard belts do. And they should be set right. The manufacturer has whined me up on the right way to handle the belts on all M11 engines. He says to put a 70 to 90 lb pull on a 10-inch-long bar, resting against the generator, and pointed against the slack just under the returning component for the first top-end cover.

That'll leave three belts just the way you want them.

And if you ever have nice-riding from under the hood, it's over can be back for loose belts.



Can. But if you really want the parts, and have a pocket fulla dough, they can be had as a commercial purchase order sent direct to Bendix Electric Co., South Bend, Ind.

Half-Mast

HOW TO REVERSE AMB GENERATOR POLARITY

Dear Half-Mast,

My question deals with the AMB under the batteries and how and a theory cable is used. do you have to flash the field of the generator? If so, how is this best done?

Sgt G. K.

Dear Sgt G. K.,

Having to flash the generator is about a one-in-a-thousand shot. The only time it could be necessary is when the tank hasn't been run for a long time, the when it's been in storage or shipment, or when a new generator that's been sitting

in stock is installed. Chances are even then you wouldn't have to flash it.

To flash . . . remove the entire set of batteries, get at the cables entering the rear of the master junction box, and unscrew the #2 main generator-cable connection (bottom top bracket) (Fig. 1). Get a 2-foot piece of 18 wire, flash one end to the magnet side of the auxiliary generator, and wind up the auxiliary generator. It'll burn as its own power. Then with a quick motion, jolt the other end of the #2 generator cable (front) negative (Fig. 1). That'll flash the main generator and set it straight.

You'll never have to worry about flashing the auxiliary generator, it flashes itself every time it's cranked electrically.

Half-Mast

TOOL KIT 196

Dear Half-Mast,

I have been trying to locate a T-8 on



Fig. 1

And whether not No. 7 for installation in vehicles, can you tell me if there is such a bulletin and if not, can you offer any suggestions.

SFC M.E.
F. Wards, Texas

Dear SFC H.R.,

You're one of the ones a TB for the job whether we No. 6 for installation in vehicles at this time. That hasn't been published yet. The publication you want is OED 4 594, 48 and 49; publication is waiting for your request.

Self-Start

EMERGENCY ALLOWANCES

Dear Mr/Ms/Ms,

I've been wondering why the Oed Vehicle Books are so different in their authorizations for stock parts. For instance, one 594, will let us down head gaskets and another none.

There are not so many parts for the Jeep as we do for the GMC trucks.

Sgt J. W. W.

Dear Mr/Sgt J. W. W.,

That's a good question — often asked. The reply is simple—only you've got to know the ropes to know the answer.

After a thorough check by the Oed Corps on the use of items as shown by the entire Army, the parts allowances are set up in the Oed Vehicle Books. In the case of the Jeep or the GMC, truck it appears that the GMC has a higher usage and a heavier usage than the Jeep, hence the difference in the stock parts. In your own mind perhaps you're right, the Jeep may be used equally as much as the truck.

We'd like to suggest that if you want that change should be made in the spare

part allowance check with OED 3, June 1954, page 2, paragraph 3 which is about say, "Make your recommendations for these changes down to the big boss." Read the suggested paragraph. It gives you the mail you need for changes.

Self-Start

EMERGENCY BATTERY-REPAIR

Dear Self-Start,

As an emergency battery repair, if you had compressed and pressurized for some time, it becomes very thick and will not hold battery in Jeep. Sgt F. A. F.

Dear Sgt F. A. F.,

It takes time to heat battery of constant boiling for the next person is composed on think-up enough, but it'll not hold as good as anything.

For a real quickie, though . . . make yourself a gallon of 20-40 Compressed, Sphering, GE 117 or Standard Motor brand and next time you need less handling, heat the 117. In the time it takes to-heat-up, use a pry to remove the old compressed and to make a small groove around the hub. Then pour in the melted 117. It'll handle 1-2-3 . . . and that's it. It's weatherproof, too.

Incidentally, if it's the case that's involved, then sealing action is given by real dimensional. Better make a new battery case as you get to the right neighborhood. And with cracks in the metal collector, the same shell holder except you only need replace the cell cap. Just don't use a petroleum base under—it breaks down the sulphate in the case.

Self-Start

RATCHET-SPRING LUBE

Dear Half-Moon,

What do you think about taking your ratchet wrench apart and packing the ratchet with WD grease to make it slip easier. Some like the ratchet doesn't click at such when loosening bolts.

Dear Sgt. J. M.,

Sgt. J. M.

Your suggestion about taking a ratchet apart and packing it with grease to get better and quieter operation is good enough, but why not use chassis lube, or some commercial vaseline if you have it at hand. Wheel bearing grease is too heavy and lubricated that I'm afraid some cold morning the dog won't engage the ratchet fully and you'll lose all the bite off your knuckles when it slips out. Getting rid of some of the click is O.K., but remember that the lock pawl must drop clear into the notch on the drive disk or you'll have an unsafe wrench in use.

And incidentally, when your ratchet becomes worn, start the ratcheting to get a new one. It might cost more than new lube, but it's less painful to you.

Half-Moon

MARKING LUBE POINTS

Dear Half-Moon,

Never given up trying to find an Army Regulation or manual's repeating lubrication points in the chassis and real points, filler plugs painted red, etc. This was required in USCM for some years. What is the technical data on this?

Sgt. R. E. C.

Dear Sgt. R. E. C.,

Used to be a manual when you had to lube by means of grease cups . . . that

along came other ways of lubing and the red paint was given back to the Indians. Maybe this wasn't such a good idea, sometimes, because some of the newer TM's are coming through with, and I quote, "A 1/2-inch red circle should be painted around all lube fittings" and quote. And in the cycle complete manual, because now it's being taught that all drain plugs, transmission filters, grease points and tank differential filters are to be painted red.

The lack of red a bearing was lost . . . and it's still under the top red through grease than in the red period.

Half-Moon

RECIPIENTS OF

Dear Half-Moon,

I disagree with Sgt. C. E. H. who complained to you from Hawaii (from PE page 10) that the dogs there get slipped by your inspectors (I DE) who's found in their vehicle's at times. The standard inspection team carrying that one operates out of this office and before we are gone, the Lube Orders are not little.

L. R. W.

Dear L. R. W.,

Good for the USARPAC available your inspection team that I told Sgt. C. E. H. in June 55, the (10) the law.

Thanks for writing. It was good to hear you speak.



**To Save Walking Back
Here's A Field Fix For**

M46 OIL COOLER FANS



Development and Field Service, Aberdeen, has come up with an emergency fix for a dead clutch in the oil cooler fan. They recommend welding the fan to the clutch, causing the fan to drive from the transmission without benefit of the electrical system. This fix has gotten tanks back home under their own power from over 200 miles away. It can be done in the field in about ten

minutes when your tank's rigged for it.

If you want your tank to slope for this quick-fix, here's how it's done. Get a 1" hole drilled in both fan shrouds, on top and 2" from the rear flange (Fig. 1). This is so you'll be able to get at the fan. Also it won't hurt to have them check the 1" hole to take a standard pipe plug that'll act as a die support.

Then you'll need 25 feet of 21 wire



Fig. 1—You need this hole for the welding rod—but keep it plugged when not in use.



Fig. 2—Here's about all it takes to slip a power extension bar for the oil-cooler fan.

cable, a 3" piece of $\frac{1}{8}$ " copper tubing, a cable lug (1 1/2 dia.), a 3/16" hole in nut and a welding electrode wire (Fig. 1). This'll make a power connection to run from the tank's slave electrode back to the cell-center fan.

Assemble the extension and single electrode holder this way. Skin off 1" of the insulation from one end of the cable; trim the wires till they slip into the 3" piece of tubing... then fill the tube with solder to help it hold its shape. On the other end, skin off 1/2" of insulation, clean it, then solder it into the cable lug. File a groove across the lug (near the hole) to make a snug seat for the welding rod, run the hole through the hole and screw on the nut (Fig. 1).

Now if your oil cooler fan ever goes kaput and there's no other way of fixing it. Get out the welding extension you've just made, plug the copper tubing end in the positive socket of the

slave-electrode. 2. Put the wire electrode in the groove of the lug and tighten the nut (like in Fig. 2). 3. Get at the fan that's dead and remove the plug, lower the electrode in the hole, guide it past the fan, hold it above the fan base and get set to flash the welding arc (Fig. 3). 4. Run the auxiliary generator and the joint output is about 150 amperes, start with a quick jab, touch the fan base.

This'll weld it to the clutch and you can put in the plug and your tank'll be ready to take off again...

But you'll have to take it easy...if you combine the tank or give her the gas squabbles, tank acceleration might shear the fan's drive shaft.

When the time comes to replace the fan, you'll be able to reuse the welded fan and clutch... just break the weld and machine the rough spots till you've got smooth clutch and drive faces.



Fig. 2—This is how the welding rod gets tightened in the groove made in the lug.



Fig. 3—Like it like this... and you have a fix for dead clutches in otherwise fine

STEPHANUS... The Remarkable Driver



As you can see, verbal events like this can easily result in a matter of considerable time, so instead of reporting the whole conversation, we'll result into the heart of the matter and psychodynamically Stephanus, the driver — the 'remarkable' driver,

Stephanus was busy at his trade, felt working at Fulmer's, when he received the greeting card that told his friends and neighbors had selected him for service.

When he was selected the driver rating, since there wasn't an opening in his civilian profession at the moment. Now Stephanus tried very hard, but no matter how hard he tried, he can't seem to make the proper gear when driving up hill.

He invariably chooses one rate higher than he should use on any given hill. When he should use 1st, he's in 2nd. When he should be in 2nd he's in 3rd — it's a talent. They say Stephanus would rather stall for a few than use 1st. You might call Stephanus a lugger.

They're reading him now, however, with

the help and advice of the Disciple, the Disciple, and the 2nd school shop.

First they have him roll on a comfortable one . . . tell him he mustn't lag his engine over hills . . . make it comfortable, well? They show him a footed foot indicator mark at 1117. Lagging causes dangerous internal parts, well? They show him damaged bearings, burned valves, damaged pistons.

Then they ask him, "you won't lag your engine uphill any more, will you Stephanus?"

So hope Stephanus will have quickly under this kind of sympathetic guidance. But if he doesn't, well . . . there's nothing serious, the the doctor, and so on, par-talled.

THE DAY THE SHOP STOOD STILL!



What stopped the shop?

Was it a line?

Was it a bird?

Or breakfast in bed . . . ?

All wrong, soldier. The latest copy of *PS* just shot into the shop. And that's no bullet! The men who know their chools best will take time out to fuddle over *PS* before they turn another wrench. They'll pass it around until all the stories are smutty from grease prints . . . peeped from hard wear.

PS is no library flower—it's screaming for attention NOW. It won't wait for a rainy day.

The best thing that can happen is for it to look like the one in the picture . . . greasy and read all over.